

2019

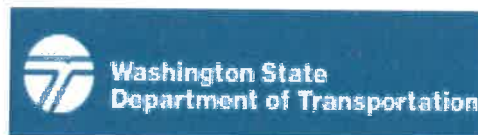
**Washington State Ferry Terminal
Structural Inspection**

By the Bridge Preservation Office

Kingston Ferry Terminal

Location	Bridge No.	Type	Inspection Date	Report Received
OVH	104/14FTP	Safety	9/10/2019	11/18/2019

FC= Fracture Critical



Electronic Version G:\Term_Fac_Info\Terminal\Inspections\Bridge_Reports*.pdf
Also on the DOT Bridge website at <http://beist/InventoryAndRepair/Inventory/BRIDGE>
Additional Information and Fracture Critical Report are in the Bridge Works Program

BRIDGE INSPECTION REPORT

Page 1 of 6

Status: Released

Printed On: 11/13/2019

Agency: State Ferries

CD Guid: 28f540ff-52d3-4fa7-bbf1-91fe5c6afcc3

Release Date: 11/13/2019

Program Mgr: Evan M Grimm

Br. No. 104/14FTP SID 0013936A Br. Name KINGSTON PEDESTRIAN RAMP

Carrying PEDESTRIAN TRAFFIC

Route On

Mile Post

Intersecting FERRY TRAFFIC

Route Under 00104

Mile Post 24.44

Inspector's Signature CRT

Cert # G1325

Cert Exp Date 1/12/2022

Co-Inspector's Signature MDM

Inspections Performed

Report Type	Inspection Type	Date	Freq	Hours	Inspector	Cert No	Co-Insp.
Underwater		10/9/2017	60	0.5	RMP	G1215	MBS
Condition		9/10/2019	24	4.0	CRT	G1325	MDM

9	<input type="checkbox"/> Alignment (1661)	<input type="checkbox"/> Operating Tons (1552)	N	<input type="checkbox"/> Bridge Rails (1684)	0	<input type="checkbox"/> No Utilities (2675)
7	<input type="checkbox"/> Deck Overall (1663)	<input type="checkbox"/> Op RF (1553)	N	<input type="checkbox"/> Transition (1685)	0.00	<input type="checkbox"/> Asphalt Depth (2610)
7	<input type="checkbox"/> Superstructure (1671)	<input type="checkbox"/> Inventory Tons (1555)	N	<input type="checkbox"/> Guardrails (1686)	1993	<input type="checkbox"/> Year Built (1332)
7	<input type="checkbox"/> Substructure (1676)	<input type="checkbox"/> Inv RF (1556)	N	<input type="checkbox"/> Terminals (1687)	0	<input type="checkbox"/> Year Rebuilt (1336)
9	<input type="checkbox"/> Culvert (1678)	N <input type="checkbox"/> Operating Level (1660)		<input type="checkbox"/> Bridge Rail Ht (2612)		
8	<input type="checkbox"/> Chan/Protection (1677)	A <input type="checkbox"/> Open/Closed (1293)		<input type="checkbox"/> Design Curb Ht (2611)		
N	<input type="checkbox"/> Pier/Abut/Prot (1679)	<input type="checkbox"/> Structural Eval (1657)	<div style="text-align: center;"> RECEIVED NOV 18 2019 TERMINAL ENGINEERING </div>			
8	<input type="checkbox"/> Waterway (1662)	9 <input type="checkbox"/> Deck Geometry (1658)				
5	<input type="checkbox"/> Scour (1680)	3 <input type="checkbox"/> Underclearance (1659)				

NBIS Risk Category
 Low Risk

Inspection Flags

<input type="checkbox"/> Soundings (2693)	<input type="checkbox"/> Measure Clearance (2694)	<input type="checkbox"/> Revise Rating (2688)	<input type="checkbox"/> Photos (2691)	<input type="checkbox"/> QA Flag (2695)
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BMS Elements

Element	Element Description	Total	Units	CS 1	CS 2	CS 3	CS 4
8125	Concrete Submerged Pile/Column	6	EA	6	0	0	0
8129	Transfer Span/OHL Supercolumn	1	EA	1	0	0	0
8130	Steel Pier Cap/Crossbeam	551	LF	551	0	0	0
8132	Concrete Pier Cap/Crossbeam	32	LF	32	0	0	0
8204	Steel Thru Truss (FC)	960	LF	960	0	0	0
8206	Steel Floor Beam	122	LF	122	0	0	0
8222	Deck Corrugated orthotropic/Other Steel system	8,332	SF	8,032	0	300	0
8225	Non-skid Metal Surfacing	630	SF	315	0	315	0
8312	Span Apron/Cab Gangplank Pivot/Raise/Rams/Fittings	6	EA	6	0	0	0
8361	Scour	7	EA	6	1	0	0
8390	Fixed Bearing	10	EA	8	0	2	0
8391	Moveable Bearing (roller, sliding, etc.)	10	EA	10	0	0	0
8408	Steel Sliding Plate Joint	130	LF	130	0	0	0
8640	Moveable Pedestrian Gangplank	66	LF	63	0	3	0
8650	Overhead Passenger Loading Cab	200	SF	200	0	0	0

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Release Date: 11/13/2019

Program Mgr: Evan M Grimm

Br. No. 104/14FTP	SID 0013936A	Br. Name KINGSTON PEDESTRIAN RAMP
Carrying PEDESTRIAN TRAFFIC		Route On
Intersecting FERRY TRAFFIC		Route Under 00104
		Mile Post 24.44

BMS Elements (Continued)

Element	Element Description	Total	Units	CS 1	CS 2	CS 3	CS 4
8653	Passenger Cab Floor System and Lift Beam(FC)	142	LF	142	0	0	0
8815	Metal Pedestrian Railing	1,448	LF	1,448	0	0	0
8901	Protective Coating - Bridge	11,000	SF	10,960	0	40	0
8902	Protective Coating - Piling	2,400	SF	2,380	0	20	0

Notes**0 GENERAL NOTES:**

For location reference: AHEAD on station is going OFFSHORE and lateral features are called out LEFT and RIGHT.

There is no real abutment. The bridge seat for the shore end of Span 1 is supported on 6 concrete piles and a cap that is part of the building floor.

The Pedestrian Ramp includes the 4 Approach Trusses, the Transfer Span Truss, the Overhead Loading Cab, and all supporting bents, columns, and the supercolumn interior. The stairs to Pier 5 are also included in the Pedestrian Ramp.

Pier 6 defect locations are called out in clock face directions where centerline offshore is noon, right is 3 o'clock, centerline onshore is 6 o'clock, and left is 9 o'clock.

See attached layout.

1 FRACTURE CRITICAL (FC) INSPECTION:

Visual fracture critical inspection is for truss tension components, cab lift frame, gangplank and apron.

The overhead loading cab support frame and the supercolumn can be accessed through the floor system.

On a 48 month frequency, full fracture critical inspection using genie lift, done in 2019 and due in 2023. In inspections without genie, fracture critical inspection to be done on foot, with access to cab support and gangplank through floor hatches in the cab.

See attached FC Report under the files tab.

9 An underwater inspection of the Kingston Pedestrian Ramp was conducted by the WSDOT Bridge Preservation dive team October 9th through the 11th, 2017. This inspection encompassed the pedestrian loader columns and the stair cap columns.

In general, all inspected elements were found to be in good condition with only minor defects noted.

The mudline around Pier 6, the supercolumn pier, has degraded up to 11-ft since original construction in 1993. Fifty feet of shaft embedment remains. The ground material surrounding Pier 6 includes erodible clay. Recommend WSF take periodic soundings around Pier 6 to monitor for further degradation.

The facility should remain on a 60-month underwater inspection frequency.

1677 CHANNEL PROTECTION:

Underwater Inspection Findings:

The channel bottom consists of 2" to 4" cobbles, sand and shells, with areas of erodible clay substrate.

See attached underwater inspection layout for locations and details.

1680 SCOUR:

See Element 8361.

2694 CLEARANCES:

Vertical clearance checked on 9/20/2017. Minimum clearance measured to be 15'-8" below the bottom edge of Ped bridge to the left fog line stripe of Slip #2 approach.

Posted for 15'-0" on both sides of bridge.

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Notes (Continued)

8125 CONCRETE SUBMERGED PILE COLUMN:

The abutment cap is supported on six prestressed concrete piles that are not visible behind the sheet pile wall and help support the fishing pier cap extension. These piles are not included in the BMS quantities.

Two prestressed piles support the stair cap. Piers 2, 3, and 4 are supported by 5-ft. diameter drilled shafts. Pier 5 is supported by an 8-ft. diameter column. The Pier 6 supercolumn is discussed under Element 8129.

Pier 3 column has coating failure with moderate rust above intertidal zone (Photo #48).

Pier 4 knee brace is field welded to the cast-in-place base plate (Photo #41). The chipped out spalls at the top appear to be an as-built condition.

Underwater Inspection Findings:

Piers 2 through 5 columns (Photo UW-1) have marine growth in the intertidal zone to the mudline with up to 95% coverage (Photo UW-2).

See attached underwater inspection layout for locations and details.

8129 PASSENGER OVERHEAD LOADING SUPERCOLUMN:

The Pier 6 Supercolumn that houses the cab and transfer span hydraulic lifting ram is an 8'-8" diameter drilled shaft with a permanent 3/4" steel outer shell.

Underwater Inspection Findings:

Pier 6 supercolumn typically has nearly 100% marine growth several inches thick in the intertidal zone (ITZ). Pier 6 has a large concrete overpour (Photo UW-3) extending 2-ft. or 3-ft. from the face of the supercolumn on the offshore face (12 noon), to about 6-ft. from the onshore face (6 o'clock) to 12-ft. from the left face (9 o'clock). The top of concrete to the ground was measured from 4-ft. (offshore) to 11-ft. (left side/9 o'clock). The concrete attached to the supercolumn looks like a gigantic version of concrete attached to a fence post after it's been uncovered. A 2'(W) x 6'(H) area of column steel shell was exposed below the concrete at groundline (Photo UW-4) at 10 o'clock.

Pier 6 supercolumn fiberglass shroud lip has loose bolts. All bolts from water surface to the bottom of the shroud can be finger spun (Photos UW-5 and UW-6).

See attached underwater inspection layout for locations and details.

8130 STEEL PIER CAP/CROSSBEAM:

Steel pier caps are the steel "W" frames and pipe knee bracing that support the pier platforms. Scattered small spots of surface rust, particularly in tight angle cap connections.

8132 CONCRETE PIER CAP/CROSSBEAM:

Located at Pier 1 and also for a short section for the stair support near Pier 5 (Photo #14).

8204 STEEL THRU TRUSS (FC):

There are a few rough surface welds in the acute underside angles of the diagonal to bottom chord connections and in the floor system bracing. A few of these welds are showing rust.

See attached FC Report for additional details and for photos references (Photos #49, #36, #54, & #39).

General minor speckled rust on welds and on top side of bottom cords.

8222 CONCRETE DECK PAN:

The steel pans span between floorbeams and has a total thickness of 4".

The deck on the platforms at Piers 2 through 5 are 8" total thickness.

Soffit near FB4 in Span 3 has paint failure and rust blooms (Photo #46).

Soffit in Span 1 near right bearing has paint failure with rust blooms (element 8204 Photo #49).

A total of about 300SF has corrosion and is considered CS3.

8225 NON-SKID METAL SURFACING:

Surfacing is largely intact, with small sections chipped off at joints and some spots intentionally omitted at panel edges.

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Notes (Continued)

8312 SPAN APRON/CB GANGPLANK PIVOR/RAISE/RAMS/FITTINGS:

Main lift arms and hydraulic rams are in good working order as are the pivot rams and all fittings. There is a 2" x 1/8" deep gouge in seaside pin plate at the top of the Slip 1 raising/lowering ram (Photo #31). Paint is failing in this area however a spot painting contract was ongoing during 2017 inspection. Update photo in 2021 inspection.

Slip 1 and Slip 2 gangplank, end of support beams are rusting through (Photos #44 & #45). These are thin cover plates at the end of the structural tubing, the rust is now propagating into the structural tubing. REPAIR #7.

One ram for raising and lowering each gangway. The apron is hinged to the cab by 2 pins (Element 8305). See the attached FC Report.

Pins were UT'd 8/29/06 with no indications. Future UT of these pins is not required. A failure of one of these pins would be a serviceability issue, but the span would not collapse. There are framing members directly under the pins (almost in contact with the pin assembly) which would catch the gangplank clevis. The apron lifting ram also provides a third support point.

One ram extends and retracts each gangway to full length. These ram ends have keyways held in place with machine screws. Apron pivot ram end fittings have some surface rust.

To access the rams and connections, the gangplank must be fully lowered. Access is through the hatch in the gangplank floor using 5/16" hex key. Also de-energize the bird deterrent system by unplugging it from the outlet in the cab.

8361 SCOUR:

Scour is evaluated as part of the underwater inspection report and fathometric surveys by WSF.

Underwater Inspection Findings:

Pier 6 supercolumn has erodible clay on the right side to offshore (Photo UW-7). Transient sand surrounds the rest of the overpour below it. The top of the overpour is the same as the original 1993 mudline per the supercolumn as-builts. The surrounding material has degraded vertically to 11-ft. on the left side of the column (Photo UW-3). As-builts show the supercolumn shaft has 50-ft of remaining embedment. See dimensions of exposed overpour in Element 8129.

See attached underwater layout for locations and details.

8390 FIXED BEARING:

Bridge seat bearings at abutment are rusty with rusty plates. Some of the bearings have running rust in the pin holes of the clevis plates.

Span 3 hinge connection at Pier 3, the pivot bolt has a loose nut (Photo #40). REPAIR #6.

Span 4 bearing at Pier 5 has 1/8" thick laminar rust (Photo #42).

8391 MOVEABLE BEARING (ROLLER,SLIDING, ETC.)

Elastomeric bearings at the offshore end of all approach trusses (Photo #17). Roller bearing at the cab end of the transfer span. There is a roller bearing supporting the transfer span truss at the cab end.

8408 STEEL SLIDING PLATE JOINT:

Truss end bottom chord sliding plate welds are undercut, rough, and rusty. There is surface rust around the plate edges at the truss (Photo #50).

8640 MOVEABLE PEDESTRIAN GANGPLANK:

The Moveable Pedestrian Gangplanks are operated by hydraulic rams. All rams are combined under element 8312.

There are 21 floorbeams in the apron and extension of various shapes and sizes.

Apron deck plates have moderate wear on the Slip 1 (left) side of the cab.

Apron lips have some wear and soffit scrapes.

Structural underside members have rust blooms with up to 10% section loss (Photo #52). (CS3) Much of the underside was painted in 2017, however rust is bleeding through again. Update photos next inspection.

Right most shoreside fall protection grate panel in inspection cab under right gangplank is missing a bolt (Photo #51). REPAIR #8.

Span 2 apron has a deformed underside support member at the offshore end (Photo #53). REPAIR #9.

8650 OVERHEAD PASSENGER LOADING CAB:

The loading cab crossbeam and longitudinal cantilever beams are fracture critical. The beams are in good condition with only minor paint chips. Welded crossbeam above the supercolumn ram had no visible defects. See attached FC Report.

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Notes (Continued)

- 8653 PASSENGER CAB FLOOR SYSTEM AND LIFT BEAM (FC):
The lift beam is the support frame and grillage that supports the overhead loading cab and is raised and lowered by the supercolumn hydraulic ram. Listed in the FC Report as Cab Lift Frame.
Open access hatches to view cab floor supports (Photo #29).
See attached Fracture Critical report and FC drawings for details.
- 8815 METAL PEDESTRIAN RAILING:
Pipe rail on interior of overhead trusses and platforms.
- 8901 PROTECTIVE COATING - BRIDGE:
All enclosed truss elements, roof support frames, bottom chords, floor system of trusses, and cab are painted with this system. See elements 8222, 8390, and 8204.
Several areas of paint deterioration in the truss, as detailed in the FC Inspection Report. REPAIR #10.
- 8902 PROTECTIVE COATING - PILING:
Drilled shaft steel casing surface is painted with this system. See elements 8125 and 8129.

Repairs

Repair No	Pr	R	Repair Descriptions	BMS	Noted	Maint	Verified
6	1	B	Span 3 hinge connection at Pier 3, pivot bolt has a loose nut. Drill hole for cotter pin and install pin. Or, tack weld or pean.	8390	9/12/2011		
7	1	B	Slip 1 and 2 gangplanks, end of support beams are rusting through. These are thin cover plates at the end of the structural tubing, the rust is now propagating into the structural tubing. Remove cover plate, clean interior to bright steel, prime and paint. Replace cover plate with minimum 1/4" plate, prime, and paint.	8312	9/12/2011		
8	2	B	Right most shoreside fall protection grate panel in inspection cab under right pedestrian gangplank is missing a bolt. Replace and tighten bolt.	8640	9/20/2017		
9	1	B	Replace the damaged apron support beam for the Slip 2 gangplank apron at the off shore end.	8640	9/10/2019		
10	1	B	Clean and spot paint areas of rust in the truss spans. Notably the Span 1 truss underside near Pier 1, and the Span 5 truss bottom chord, top side at Pier 6.	8901	9/10/2019		

Inspections Performed and Resources Required

Report Type	Date	Freq	Hrs	Insp	CertNo	Coinsp	Note		
Underwater	10/9/2017	60	0.5	RMP	G1215	MBS	Underwater inspection by WSDOT Dive Team.		
Resources	Hours	Min	Pref	Max	Freq	Date	Need Date	Override	Notes
Boat	0.50								Used 24' Duckworth launched from adjacent Port of Kingston boat ramp. Parking fee was \$7/day in 2017. Kiosk accepted credit cards.
Third Party Notification									Contact Ferry Terminal Agent/crew daily upon arrival and departure for the day. 2017UW agent was named Darren @ (206)264-3573.
Third Party Notification									Contact Tom Castor at WSF 206-515-3727 to find out about repair contracts, on site contacts, and his concerns for this structure. Send QN's (Quick Notices) to WSF Shore Operations, Maintenance and Vessel Operations 48hrs prior to inspection.
Third Party Notification									Call USCG Seattle Sector (206.217.6001) prior to arrival and after departure for the day.

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Inspections Performed and Resources Required (Continued)

Report Type	Date	Freq	Hrs	Insp	CertNo	Coinsp	Note		
Tides							Tides were ebbing from 9.4 to 8.5 during inspection for Piers P-2 to P-5 in 2017. Tides for P-6 were approximately 5.5 and 9.6 for Monday and Wednesday, respectively.		
Condition	9/10/2019	24	4.0	CRT	G1325	MDM	In 2019 this inspection was changed from a "Primary Safety" to a "Condition" as this structure does not carry vehicle traffic therefore is not reportable to the NBI but is using WSBIS to maintain a comprehensive record of the structure for both public safety and long term maintenance. Special/Routine every 24 months, full FC type inspection with manlift done every 48 months.		
Resources	Hours	Min	Pref	Max	Freq	Date	Need Date	Override	Notes
Platform	3.00				48	9/10/2019	9/10/2023		80' Genie lift (squirt boom) required for full FC Inspection on a 48 month frequency. CAUTION!! - Low tide may prevent lift from offloading from ferry. 2019 inspection, tide nearly prevented offload due to steepness of apron and bridge. Coordinate lift move with terminal agents at both ends and boat crew. Kvichak used to inspect all in water elements.
Boat	0.50								
Scheduling Restrictions									Ferry schedule governs work. Inspection must not interfere with ferry landings and departures.
Third Party Notification									Washington State Ferries Terminal Staff may participate in this inspection as necessary to gather repair information. Contact Tom Castor at WSF 206-515-3727. Send QN's (Quick Notices) to WSF Shore Operations, Maintenance and Vessel Operations.
Safety Issues									Bird deterrent sound system electric powered.
Access Issues									To open access hatches in the passenger cab floor a 5/16" Allen wrench is required. Bring 2 full sets of these wrenches, (See Note in the FC file). A couple of the screws require a large blade screwdriver. Bring safety cones. Open this hatch on a 48 month frequency, alternating with 48 month equipment inspection done with the manlift. Due next in 2021.



VISUAL FRACTURE CRITICAL INSPECTION REPORT

Bridge Name:	KINGSTON PED RAMP	Date:	9/10/2019
Bridge No:	104/14FTP	Hours:	1
Structure ID:	0013936A	Inspector ID #:	G1325
Structure Type:	TUBULAR STEEL TRUSS	Lead Inspector Initials:	CRT
Agency:	WSF	Co-Inspector Initials:	MDM
Milepost:	24.44		

Lead Inspector Signature:

Inspected items and Procedures:

Co-Inspector Signature:

David R Bremer for MDM

Welded Truss

1. As required, use mirrors or other equipment to check inside surfaces of FCM's.
2. Check longitudinal welds the full length of the FCM.
3. Check connection or gusset plates at the ends of the FCM.
4. Check transverse welds including any internal diaphragms condition,
5. Check welds at connections.
6. Check backup bars, if present. Record presence of backup bars regardless of condition.
7. Check for welding arc sites.
8. Check for any plug, tack, or repair welds. Record location of these welds and document weld type and category.
9. Check FC members and associated connection or gusset plates for areas of heavy or pitted corrosion, nicks, gouges, sharp bends, and collision damage. Record location and estimated section loss, if applicable.
10. Check all heat straightened or repaired areas. Record location of these areas, regardless of condition.

Pins and Anchor Bolts

1. As required, use mirrors or other equipment to check inside surfaces of FCM's.
2. Check for pitting, laminar rust, surface deformation, and pack rust. It is important to check the pin, pin nuts, and all members surrounding the pin for this kind of steel deterioration.
3. Check for mobility and noise of pin and surrounding members. If the pin is physically "frozen" it is important to note this because the added stress can affect other members in the structure.
4. Observe and record abnormalities like; alignment, pin wear, loose pin nuts, and amount of nut engagement. It's important to note that full nut engagement is when the nut is flush with the pin or the pin is extending past the nut.
5. Check for paint system failure on pin nuts, pin, and surrounding members.

FCM Location	FCM Type	FCM Per Girder or Truss Line	BEIST Plans		
			Sh. No.	Contract	Sh. Name
Spans 1 to 5	Welded Truss w/ Pins		43	2800	Layout
Span 3	Welded Tens. Members	16	61	2800	Truss Geometry
			62	2800	Stress Table
			63	2800	U1,U2,L0,L1 & L2
			64	2800	U3 thru U7 & L3 thru L7
	Anchor Pin	2	71	2800	Truss Bearings & Wind



VISUAL FRACTURE CRITICAL INSPECTION REPORT

					Shoe
	Floorbeam/Bot Chord	8	69	2800	Intermediate Floor Beam
	Angle Connection		70	2800	End Floor Beam
			4	4224	Floorbeam Modification
Span 4	Welded Tens. Members	33	61	2800	Truss Geometry
			62	2800	Stress Table
			65	2800	U8, U9 & L8, L9
			66	2800	U10 thru U13 & L10 thru L13
			67	2800	U14 thru U16 & L14 thru L16
	Floorbeam/Bot Chord	8	69	2800	Intermediate Floor Beam
	Angle Connection		4	4224	Floorbeam Modification
Span 5	Welded Tens. Members	16	61	2800	Truss Geometry
			62	2800	Stress Table
			63	2800	U1,U2,L0,L1 & L2
			64	2800	U3 thru U7 & L3 thru L7
	Anchor Pin	2	71	2800	Truss Bearings & Wind Shoe
	Floorbeam/Bot Chord	8	69	2800	Intermediate Floor Beam
	Angle Connection		70	2800	End Floor Beam
			4	4224	Floorbeam Modification

Note: FCM = Fracture Critical Member



VISUAL FRACTURE CRITICAL INSPECTION REPORT

Bridge Name: KINGSTON PED RAMP Date: 9/10/2019
Bridge No.: 104/14FTP Hours: 1
Structure ID: 0013936A Inspector ID #: G1325
Structure Type: TUBULAR STEEL TRUSS Lead Inspector: CRT
Agency: WSDOT Co-Inspector: MDM
Milepost: 24.44

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
Left	1	L0-L2	Welds	Bottom Chord	No defects noted.
Left	1	L2-L4	Welds	Bottom Chord	Bottom chord has a butt welded splice near L3.
Left	1	L4-L6	Welds	Bottom Chord	No defects noted.
Left	1	L6-L8	Welds	Bottom Chord	No defects noted.
Left	1	L8-L10	Welds	Bottom Chord	Bottom chord has a butt welded splice near L9.
Left	1	L10-L12	Welds	Bottom Chord	No defects noted.
Left	1	U1-L2	Welds	Diagonal	No defects noted.
Left	1	U3-L4	Welds	Diagonal	No defects noted.
Left	1	U5-L6	Welds	Diagonal	No defects noted.
Left	1	L6-U7	Welds	Diagonal	No defects noted.
Left	1	U7-L8	Welds	Diagonal	No defects noted.
Left	1	L8-U9	Welds	Diagonal	No defects noted.
Left	1	L10-U11	Welds	Diagonal	No defects noted.
Left	1	L1-U1	Welds	Vertical	No defects noted.
Left	1	L3-U3	Welds	Vertical	No defects noted.
Left	1	L5-U5	Welds	Vertical	No defects noted.
Left	1	L7-U7	Welds	Vertical	No defects noted.
Left	1	L9-U9	Welds	Vertical	No defects noted.
Left	1	L11-U11	Welds	Vertical	No defects noted.
Right	1	L0-L2	Welds	Bottom Chord	Multiple rust blooms, see photo #49 .
Right	1	L2-L4	Welds	Bottom Chord	Bottom chord has a butt welded splice near L3.
Right	1	L4-L6	Welds	Bottom Chord	No defects noted.
Right	1	L6-L8	Welds	Bottom Chord	No defects noted.
Right	1	L8-L10	Welds	Bottom Chord	Bottom chord has a butt welded splice near L9.
Right	1	L10-L12	Welds	Bottom Chord	No defects noted.
Right	1	U1-L2	Welds	Diagonal	No defects noted.
Right	1	U3-L4	Welds	Diagonal	No defects noted.



VISUAL FRACTURE CRITICAL INSPECTION REPORT

Bridge Name: KINGSTON PED RAMP Date: 9/10/2019
Bridge No.: 104/14FTP Hours: 1
Structure ID: 0013936A Inspector ID #: G1325
Structure Type: TUBULAR STEEL TRUSS Lead Inspector: CRT
Agency: WSDOT Co-Inspector: MDM
Milepost: 24.44

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
Right	1	U5-L6	Welds	Diagonal	No defects noted.
Right	1	L6-U7	Welds	Diagonal	No defects noted.
Right	1	U7-L8	Welds	Diagonal	No defects noted.
Right	1	L8-U9	Welds	Diagonal	No defects noted.
Right	1	L10-U11	Welds	Diagonal	No defects noted.
Right	1	L1-U1	Welds	Vertical	No defects noted.
Right	1	L3-U3	Welds	Vertical	No defects noted.
Right	1	L5-U5	Welds	Vertical	No defects noted.
Right	1	L7-U7	Welds	Vertical	No defects noted.
Right	1	L9-U9	Welds	Vertical	No defects noted.
Right	1	L11-U11	Welds	Vertical	No defects noted.
Left	2	L0-L2	Welds	Bottom Chord	No defects noted.
Left	2	L2-L4	Welds	Bottom Chord	Bottom chord has a butt welded splice near L3.
Left	2	L4-L6	Welds	Bottom Chord	No defects noted.
Left	2	L6-L8	Welds	Bottom Chord	No defects noted.
Left	2	L8-L10	Welds	Bottom Chord	Bottom chord has a butt welded splice near L9.
Left	2	L10-L12	Welds	Bottom Chord	No defects noted.
Left	2	U1-L2	Welds	Diagonal	No defects noted.
Left	2	U3-L4	Welds	Diagonal	No defects noted.
Left	2	U5-L6	Welds	Diagonal	No defects noted.
Left	2	L6-U7	Welds	Diagonal	No defects noted.
Left	2	U7-L8	Welds	Diagonal	No defects noted.
Left	2	L8-U9	Welds	Diagonal	No defects noted.
Left	2	L10-U11	Welds	Diagonal	No defects noted.
Left	2	L1-U1	Welds	Vertical	No defects noted.
Left	2	L3-U3	Welds	Vertical	No defects noted.
Left	2	L5-U5	Welds	Vertical	No defects noted.



VISUAL FRACTURE CRITICAL INSPECTION REPORT

Bridge Name: KINGSTON PED RAMP
Bridge No.: 104/14FTP
Structure ID: 0013936A
Structure Type: TUBULAR STEEL TRUSS
Agency: WSDOT
Milepost: 24.44

Date: 9/10/2019
Hours: 1
Inspector ID #: G1325
Lead Inspector: CRT
Co-Inspector: MDM

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
Left	2	L7-U7	Welds	Vertical	No defects noted.
Left	2	L9-U9	Welds	Vertical	No defects noted.
Left	2	L11-U11	Welds	Vertical	No defects noted.
Right	2	L0-L2	Welds	Bottom Chord	No defects noted.
Right	2	L2-L4	Welds	Bottom Chord	Bottom chord has a butt welded splice near L3.
Right	2	L4-L6	Welds	Bottom Chord	No defects noted.
Right	2	L6-L8	Welds	Bottom Chord	No defects noted.
Right	2	L8-L10	Welds	Bottom Chord	Bottom chord has a butt welded splice near L9.
Right	2	L10-L12	Welds	Bottom Chord	No defects noted.
Right	2	U1-L2	Welds	Diagonal	No defects noted.
Right	2	U3-L4	Welds	Diagonal	No defects noted.
Right	2	U5-L6	Welds	Diagonal	No defects noted.
Right	2	L6-U7	Welds	Diagonal	No defects noted.
Right	2	U7-L8	Welds	Diagonal	No defects noted.
Right	2	L8-U9	Welds	Diagonal	No defects noted.
Right	2	L10-U11	Welds	Diagonal	No defects noted.
Right	2	L1-U1	Welds	Vertical	No defects noted.
Right	2	L3-U3	Welds	Vertical	No defects noted.
Right	2	L5-U5	Welds	Vertical	No defects noted.
Right	2	L7-U7	Welds	Vertical	No defects noted.
Right	2	L9-U9	Welds	Vertical	No defects noted.
Right	2	L11-U11	Welds	Vertical	No defects noted.
Left	3	L0-L2	Welds	Bottom Chord	No defects noted.
Left	3	L2-L4	Welds	Bottom Chord	Bottom chord has a butt welded splice near L3.
Left	3	L4-L6	Welds	Bottom Chord	No defects noted.
Left	3	L6-L8	Welds	Bottom Chord	No defects noted.



VISUAL FRACTURE CRITICAL INSPECTION REPORT

Bridge Name: KINGSTON PED RAMP Date: 9/10/2019
Bridge No.: 104/14FTP Hours: 1
Structure ID: 0013936A Inspector ID #: G1325
Structure Type: TUBULAR STEEL TRUSS Lead Inspector: CRT
Agency: WSDOT Co-Inspector: MDM
Milepost: 24.44

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
Left	3	L8-L10	Welds	Bottom Chord	Bottom chord has a butt welded splice near L9.
Left	3	L10-L12	Welds	Bottom Chord	No defects noted.
Left	3	U1-L2	Welds	Diagonal	No defects noted.
Left	3	U3-L4	Welds	Diagonal	No defects noted.
Left	3	U5-L6	Welds	Diagonal	No defects noted.
Left	3	L6-U7	Welds	Diagonal	No defects noted.
Left	3	U7-L8	Welds	Diagonal	No defects noted.
Left	3	L8-U9	Welds	Diagonal	No defects noted.
Left	3	L10-U11	Welds	Diagonal	No defects noted.
Left	3	L1-U1	Welds	Vertical	No defects noted.
Left	3	L3-U3	Welds	Vertical	No defects noted.
Left	3	L5-U5	Welds	Vertical	No defects noted.
Left	3	L7-U7	Welds	Vertical	No defects noted.
Left	3	L9-U9	Welds	Vertical	No defects noted.
Left	3	L11-U11	Welds	Vertical	No defects noted.
Right	3	L0-L2	Welds	Bottom Chord	No defects noted.
Right	3	L2-L4	Welds	Bottom Chord	Bottom chord has a butt welded splice near L3.
Right	3	L4-L6	Welds	Bottom Chord	No defects noted.
Right	3	L6-L8	Welds	Bottom Chord	No defects noted.
Right	3	L8-L10	Welds	Bottom Chord	Bottom chord has a butt welded splice near L9.
Right	3	L10-L12	Welds	Bottom Chord	No defects noted.
Right	3	U1-L2	Welds	Diagonal	No defects noted.
Right	3	U3-L4	Welds	Diagonal	No defects noted.
Right	3	U5-L6	Welds	Diagonal	No defects noted.
Right	3	L6-U7	Welds	Diagonal	No defects noted.
Right	3	U7-L8	Welds	Diagonal	No defects noted.
Right	3	L8-U9	Welds	Diagonal	No defects noted.



VISUAL FRACTURE CRITICAL INSPECTION REPORT

Bridge Name: KINGSTON PED RAMP Date: 9/10/2019
Bridge No.: 104/14FTP Hours: 1
Structure ID: 0013936A Inspector ID #: G1325
Structure Type: TUBULAR STEEL TRUSS Lead Inspector: CRT
Agency: WSDOT Co-Inspector: MDM
Milepost: 24.44

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
Right	3	L10-U11	Welds	Diagonal	No defects noted.
Right	3	L1-U1	Welds	Vertical	No defects noted.
Right	3	L3-U3	Welds	Vertical	No defects noted.
Right	3	L5-U5	Welds	Vertical	No defects noted.
Right	3	L7-U7	Welds	Vertical	No defects noted.
Right	3	L9-U9	Welds	Vertical	No defects noted.
Right	3	L11-U11	Welds	Vertical	No defects noted.
Left	4	L0-L2	Welds	Bottom Chord	No defects noted.
Left	4	L2-L4	Welds	Bottom Chord	High load scrapes in bottom chord, see photo #36 . Bottom chord has a butt welded splice near L3.
Left	4	L4-L6	Welds	Bottom Chord	High load scrapes in bottom chord.
Left	4	L6-L8	Welds	Bottom Chord	No defects noted.
Left	4	L8-L10	Welds	Bottom Chord	Bottom chord has a butt welded splice near L9.
Left	4	L10-L12	Welds	Bottom Chord	No defects noted.
Left	4	U1-L2	Welds	Diagonal	No defects noted.
Left	4	U3-L4	Welds	Diagonal	No defects noted.
Left	4	U5-L6	Welds	Diagonal	No defects noted.
Left	4	U7-L8	Welds	Diagonal	No defects noted.
Left	4	L8-U9	Welds	Diagonal	No defects noted.
Left	4	U9-L10	Welds	Diagonal	No defects noted.
Left	4	L10-U11	Welds	Diagonal	No defects noted.
Left	4	L1-U1	Welds	Vertical	No defects noted.
Left	4	L3-U3	Welds	Vertical	No defects noted.
Left	4	L5-U5	Welds	Vertical	No defects noted.
Left	4	L7-U7	Welds	Vertical	No defects noted.
Left	4	L9-U9	Welds	Vertical	No defects noted.
Left	4	L11-U11	Welds	Vertical	No defects noted.



VISUAL FRACTURE CRITICAL INSPECTION REPORT

Bridge Name: KINGSTON PED RAMP Date: 9/10/2019
Bridge No.: 104/14FTP Hours: 1
Structure ID: 0013936A Inspector ID #: G1325
Structure Type: TUBULAR STEEL TRUSS Lead Inspector: CRT
Agency: WSDOT Co-Inspector: MDM
Milepost: 24.44

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
Right	4	L0-L2	Welds	Bottom Chord	No defects noted.
Right	4	L2-L4	Welds	Bottom Chord	Bottom chord has a butt welded splice near L3.
Right	4	L4-L6	Welds	Bottom Chord	High load scrapes in bottom chord.
Right	4	L6-L8	Welds	Bottom Chord	No defects noted.
Right	4	L8-L10	Welds	Bottom Chord	Bottom chord has a butt welded splice near L9.
Right	4	L10-L12	Welds	Bottom Chord	No defects noted.
Right	4	U1-L2	Welds	Diagonal	No defects noted.
Right	4	U3-L4	Welds	Diagonal	No defects noted.
Right	4	U5-L6	Welds	Diagonal	No defects noted.
Right	4	U7-L8	Welds	Diagonal	No defects noted.
Right	4	L8-U9	Welds	Diagonal	No defects noted.
Right	4	U9-L10	Welds	Diagonal	No defects noted.
Right	4	L10-U11	Welds	Diagonal	No defects noted.
Right	4	L1-U1	Welds	Vertical	No defects noted.
Right	4	L3-U3	Welds	Vertical	No defects noted.
Right	4	L5-U5	Welds	Vertical	No defects noted.
Right	4	L7-U7	Welds	Vertical	No defects noted.
Right	4	L9-U9	Welds	Vertical	No defects noted.
Right	4	L11-U11	Welds	Vertical	No defects noted.
Left	5	L0-L2	Welds	Bottom Chord	No defects noted.
Left	5	L2-L4	Welds	Bottom Chord	Bottom chord has a butt welded splice near L3.
Left	5	L4-L6	Welds	Bottom Chord	No defects noted.
Left	5	L6-L8	Welds	Bottom Chord	No defects noted.
Left	5	L8-L10	Welds	Bottom Chord	Bottom chord has a butt welded splice near L9. Mirror welded to bottom chord.
Left	5	L10-L12	Welds	Bottom Chord	Surface and laminar rust on the top side at Pier 6, see photo #54 .



VISUAL FRACTURE CRITICAL INSPECTION REPORT

Bridge Name: KINGSTON PED RAMP Date: 9/10/2019
Bridge No.: 104/14FTP Hours: 1
Structure ID: 0013936A Inspector ID #: G1325
Structure Type: TUBULAR STEEL TRUSS Lead Inspector: CRT
Agency: WSDOT Co-Inspector: MDM
Milepost: 24.44

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
Left	5	U1-L2	Welds	Diagonal	No defects noted.
Left	5	U3-L4	Welds	Diagonal	No defects noted.
Left	5	U5-L6	Welds	Diagonal	No defects noted.
Left	5	U7-L8	Welds	Diagonal	No defects noted.
Left	5	L8-U9	Welds	Diagonal	No defects noted.
Left	5	U9-L10	Welds	Diagonal	No defects noted.
Left	5	L10-U11	Welds	Diagonal	No defects noted.
Left	5	L1-U1	Welds	Vertical	No defects noted.
Left	5	L3-U3	Welds	Vertical	No defects noted.
Left	5	L5-U5	Welds	Vertical	No defects noted.
Left	5	L7-U7	Welds	Vertical	No defects noted.
Left	5	L9-U9	Welds	Vertical	No defects noted.
Left	5	L11-U11	Welds	Vertical	No defects noted.
Right	5	L0-L2	Welds	Bottom Chord	No defects noted.
Right	5	L2-L4	Welds	Bottom Chord	Bottom chord has a butt welded splice near L3.
Right	5	L4-L6	Welds	Bottom Chord	No defects noted.
Right	5	L6-L8	Welds	Bottom Chord	No defects noted.
Right	5	L8-L10	Welds	Bottom Chord	Bottom chord has a butt welded splice near L9. Mirror welded to bottom chord, weld is rusty. see photo #39 .
Right	5	L10-L12	Welds	Bottom Chord	No defects noted.
Right	5	U1-L2	Welds	Diagonal	No defects noted.
Right	5	U3-L4	Welds	Diagonal	No defects noted.
Right	5	U5-L6	Welds	Diagonal	No defects noted.
Right	5	U7-L8	Welds	Diagonal	No defects noted.
Right	5	L8-U9	Welds	Diagonal	No defects noted.
Right	5	U9-L10	Welds	Diagonal	No defects noted.
Right	5	L10-U11	Welds	Diagonal	No defects noted.



VISUAL FRACTURE CRITICAL INSPECTION REPORT

Bridge Name: KINGSTON PED RAMP Date: 9/10/2019
Bridge No.: 104/14FTP Hours: 1
Structure ID: 0013936A Inspector ID #: G1325
Structure Type: TUBULAR STEEL TRUSS Lead Inspector: CRT
Agency: WSDOT Co-Inspector: MDM
Milepost: 24.44

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
Right	5	L1-U1	Welds	Vertical	No defects noted.
Right	5	L3-U3	Welds	Vertical	No defects noted.
Right	5	L5-U5	Welds	Vertical	No defects noted.
Right	5	L7-U7	Welds	Vertical	No defects noted.
Right	5	L9-U9	Welds	Vertical	No defects noted.
Right	5	L11-U11	Welds	Vertical	No defects noted.

CAB AND GANGPLANK					
	Cab	Lift frame	Welds	W 27 x 102 Longit. Beams	Paint has rust blooms and some welds are moderately corroded.
	Cab	Lift frame	Welds	W 30 x 211 Transverse Grillage	Paint has rust blooms and some welds are moderately corroded.
Left	Gang	Upper	Pin & Welds	Lift Ram end pin, 2 1/2" diam. x 7" long	
Left	Gang	Lower	Pin & Welds	Lift Ram end pin, 2 1/2" diam. x 7" long	
Right	Gang	Upper	Pin & Welds	Lift Ram end pin, 2 1/2" diam. x 7" long	
Right	Gang	Lower	Pin & Welds	Lift Ram end pin, 2 1/2" diam. x 7" long	
Left	Gang	Inner	Pin & Welds	Pivot pin, 1 3/4" diam. x 5 1/4"	
Left	Gang	Outer	Pin & Welds	Pivot pin, 1 3/4" diam. x 5 1/4"	
Right	Gang	Inner	Pin & Welds	Pivot pin, 1 3/4" diam. x 5 1/4"	
Right	Gang	Outer	Pin & Welds	Pivot pin, 1 3/4" diam. x 5 1/4"	
Left	Apron	Girder	Welds	Shoreside	Paint has rust blooms and some welds are moderately corroded.



VISUAL FRACTURE CRITICAL INSPECTION REPORT

Bridge Name: KINGSTON PED RAMP
Bridge No.: 104/14FTP
Structure ID: 0013936A
Structure Type: TUBULAR STEEL TRUSS
Agency: WSDOT
Milepost: 24.44

Date: 9/10/2019
Hours: 1
Inspector ID #: G1325
Lead Inspector: CRT
Co-Inspector: MDM

Truss / Girder	Span	Location	Feature Inspected	Detail Description	Remarks
Left	Apron	Girder	Welds	Seaside	Paint has rust blooms and some welds are moderately corroded.
Right	Apron	Girder	Welds	Shoreside	Paint has rust blooms and some welds are moderately corroded.
Right	Apron	Girder	Welds	Seaside	Paint has rust blooms and some welds are moderately corroded.

WSBIS Field Inventory Report



**Washington State
Department of Transportation**

Approved		
Revised		
RFC		
AAN		
Not Reviewed		

Bridge ID	1001		2009		2132		1019		1021		1156		1188		1196	
	Structure ID	Bridge Number			Bridge Name		Owner	County	City	Location	Latitude	Longitude				
WB71	0013936A	104/14FTP			KINGSTON PEDESTRIAN RAMP		22	18	0000	9.1 E JCT SR 3		47° 47' 44.50"	122° 29' 46.20"			

☐ Shaded fields are to be reviewed each inspection.

Fields in *italics* are for information only & are not editable.

1256	1257	1258	1259	1260	1261	1262
Feature Intersected		Facilities Carried	Region	Custodian	Parallel	Temporary
FERRY TRAFFIC		PEDESTRIAN TRAFFIC	OL	22	N	

Year Built	Year Rebuilt	Bridge Length	NBIS Length	1340	1342	1352	1356	1360	1364	1367	Min Vert Over Deck	Min Vert Under Deck	1374	1376	1379	Lat Under Right	Min Lat Under Left	1383	Navigation Control Code	1386	Approach Roadway	1387	Skew Angle	1310	1312	Median
1993	0	638		96	0	12.2	0.0	12.2	0.0	0.0	99' 99"	15' 10"	H	H	0.0	H	2.0	0	0	15	0	N	0			

**Crossing
Route
On
WB74**

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WB74

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3000	3001	3002	3003	3004	3005	3006	3007	3008	3009	3010	3011	3012	3013	3014	3015	3016	3017	3018	3019	3020	3021	3022	3023	3024	3025	3026	3027	3028	3029	3030	3031	3032	3033	3034	3035	3036	3037	3038	3039	3040	3041	3042	3043	3044	3045	3046	3047	3048	3049	3050	3051	3052	3053	3054	3055	3056	3057	3058	3059	3060	3061	3062	3063	3064	3065	3066	3067	3068	3069	3070	3071	3072	3073	3074	3075	3076	3077	3078	3079	3080	3081	3082	3083	3084	3085	3086	3087	3088	3089	3090	3091	3092	3093	3094	3095	3096	3097	3098	3099	3100	3101	3102	3103	3104	3105	3106	3107	3108	3109	3110	3111	3112	3113	3114	3115	3116	3117	3118	3119	3120	3121	3122	3123	3124	3125	3126	3127	3128	3129	3130	3131	3132	3133	3134	3135	3136	3137	3138	3139	3140	3141	3142	3143	3144	3145	3146	3147	3148	3149	3150	3151	3152	3153	3154	3155	3156	3157	3158	3159	3160	3161	3162	3163	3164	3165	3166	3167	3168	3169	3170	3171	3172	3173	3174	3175	3176	3177	3178	3179	3180	3181	3182	3183	3184	3185	3186	3187	3188	3189	3190	3191	3192	3193	3194	3195	3196	3197	3198	3199	3200	3201	3202	3203	3204	3205	3206	3207	3208	3209	3210	3211	3212	3213	3214	3215	3216	3217	3218	3219	3220	3221	3222	3223	3224	3225	3226	3227	3228	3229	3230	3231	3232	3233	3234	3235	3236	3237	3238	3239	3240	3241	3242	3243	3244	3245	3246	3247	3248	3249	3250	3251	3252	3253	3254	3255	3256	3257	3258	3259	3260	3261	3262	3263	3264	3265	3266	3267	3268	3269	3270	3271	3272	3273	3274	3275	3276	3277	3278	3279	3280	3281	3282	3283	3284	3285	3286	3287	3288	3289	3290	3291	3292	3293	3294	3295	3296	3297	3298	3299	3300	3301	3302	3303	3304	3305	3306	3307	3308	3309	3310	3311	3312	3313	3314	3315	3316	3317	3318	3319	3320	3321	3322	3323	3324	3325	3326	3327	3328	3329	3330	3331	3332	3333	3334	3335	3336	3337	3338	3339	3340	3341	3342	3343	3344	3345	3346	3347	3348	3349	3350	3351	3352	3353	3354	3355	3356
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Design
WB75

Main Span Material	Main Span Design	Appr Span Material	Appr Span Design	Number Main Spans	Number Appr Spans	Service On	Service Under	Deck Type	Wearing Surface	Membrane	Deck Protect	Oper Rating Method	Oper Rating Tons	Oper Rating Factor	Inv Rating Method	Inv Rating Tons	Inv Rating Factor
3	10	0	00	5	0	3	6	1	1	0	0						

Printed Date	11/13/2019
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NBIS Risk Category	Low Risk
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Inspection Report

2620 Inspection	1990 Date	2646 Inspector	2649 Cert No	2654 Co-Inspector	Inspection	Date	Inspector	Cert No	Co-Inspector
Routine					Interim				
Fracture Critical					In Depth				
Special Feature					Damage				
Underwater					PRM Safety				
UW Interim					SEC Safety				

Inspection	Date	Inspector	Cert No	Co-Inspector
Condition	9/10/2019	CRT	G1325	MDM
Short Span				
Geometric				
Info				
Inventory				

BRIDGE INSPECTION REPORT

Page 1 of 17

Status: Released

Printed On: 11/13/2019

Agency: State Ferries

CD Guid: 28f540ff-52d3-4fa7-bbf1-91fe5c6afcc3

Release Date: 11/13/2019

Program Mgr: Evan M Grimm

Br. No. 104/14FTP **SID** 0013936A

Br. Name KINGSTON PEDESTRIAN RAMP

Carrying PEDESTRIAN TRAFFIC

Route On

Mile Post

Intersecting FERRY TRAFFIC

Route Under 00104

Mile Post 24.44

SI-43

0 Orientation

Photo Type: D - Deck

Orientation: Sea

Date: 9/17/2013

Repairs:

Deck Spans 1, 2, & 3.



SI-32

0 Orientation

Photo Type: E - Elevation

Orientation: Shore

Date: 9/12/2011

Repairs:

Elevation of Span 4, Transfer Span, Supercolumn, and gangplank.



BRIDGE INSPECTION REPORT

Page 2 of 17

Status: Released

Printed On: 11/13/2019

Agency: State Ferries

CD Guid: 28f540ff-52d3-4fa7-bbf1-91fe5c6afcc3

Release Date: 11/13/2019

Program Mgr: Evan M Grimm

Br. No. 104/14FTP **SID** 0013936A

Br. Name KINGSTON PEDESTRIAN RAMP

Carrying PEDESTRIAN TRAFFIC

Route On

Mile Post

Intersecting FERRY TRAFFIC

Route Under 00104

Mile Post 24.44

SI-33

0 Orientation

Photo Type: E - Elevation

Orientation: Shore

Date: 9/12/2011

Repairs:

Elevation of Supercolumn, Passenger Cab, and Gangplanks.



SI-34

0 Orientation

Photo Type: E - Elevation

Orientation: Left

Date: 9/12/2011

Repairs:

Elevation of Spans 1 through 4.



BRIDGE INSPECTION REPORT

Page 3 of 17

Status: Released

Printed On: 11/13/2019

Agency: State Ferries

CD Guid: 28f540ff-52d3-4fa7-bbf1-91fe5c6afcc3

Release Date: 11/13/2019

Program Mgr: Evan M Grimm

Br. No. 104/14FTP **SID** 0013936A

Br. Name KINGSTON PEDESTRIAN RAMP

Carrying PEDESTRIAN TRAFFIC

Route On

Mile Post

Intersecting FERRY TRAFFIC

Route Under 00104

Mile Post 24.44

UW-0

0 Orientation

Photo Type: W - UW Cover

Orientation: Shore

Date: 10/9/2017

Repairs:

Pedestrian ramp elevation looking inshore.



SI-48

8125 Concrete Submerged Pile-

Photo Type: G - General

Orientation: Shore

Date: 9/20/2017

Repairs:

Pier 3 column has coating failure with moderate rust above intertidal zone.



BRIDGE INSPECTION REPORT

Page 4 of 17

Status: Released

Printed On: 11/13/2019

Agency: State Ferries

CD Guid: 28f540ff-52d3-4fa7-bbf1-91fe5c6afcc3

Release Date: 11/13/2019

Program Mgr: Evan M Grimm

Br. No. 104/14FTP **SID** 0013936A

Br. Name KINGSTON PEDESTRIAN RAMP

Carrying PEDESTRIAN TRAFFIC

Route On

Mile Post

Intersecting FERRY TRAFFIC

Route Under 00104

Mile Post 24.44

SI-41

8125 Concrete Submerged Pile-

Photo Type: G - General

Orientation: Left

Date: 9/12/2011

Repairs:

Pier 4 knee brace is field welded to the cast-in-place base plate. The chipped out spalls at the top appear to be an asbuilt condition.



UW-1

8125 Concrete Submerged Pile-

Photo Type: G - General

Orientation: Shore

Date: 12/5/2017

Repairs:

Piers 3 and 2 looking inshore.



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Release Date: 11/13/2019

Program Mgr: Evan M Grimm

Br. No. 104/14FTP **SID** 0013936A

Br. Name KINGSTON PEDESTRIAN RAMP

Carrying PEDESTRIAN TRAFFIC

Route On

Mile Post

Intersecting FERRY TRAFFIC

Route Under 00104

Mile Post 24.44

UW-2

8125 Concrete Submerged Pile-

Photo Type: I - In Depth

Orientation: Sea

Date: 12/5/2017

Repairs:

Pier 3 looking onshore. Note the marine growth and the sandy bottom.



UW-3

8129 Transfer Span/OHL Supercolumn

Photo Type: G - General

Orientation: Right

Date: 10/9/2017

Repairs:

Pier 6 supercolumn has a large concrete overpour which is up to 11-ft high. The pile in front is the Aux. Slip 1 right wingwall batter Pile 2E. Color minimized for clarity.



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UW-4

8129 Transfer Span/OHL Supercolumn

Photo Type: I - In Depth

Orientation: Right

Date: 10/9/2017

Repairs:

Exposed non-coated steel casing at groundline 2'(W) x 6"(H) below concrete overpour.



UW-5

8129 Transfer Span/OHL Supercolumn

Photo Type: I - In Depth

Orientation: Left

Date: 10/9/2017

Repairs:

Pier 6 supercolumn fiberglass shroud lip has loose bolts underwater. All bolts from water surface to the bottom of the shroud can be finger spun.



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UW-6

8129 Transfer Span/OHL Supercolumn

Photo Type: I - In Depth

Orientation: Left

Date: 10/9/2017

Repairs:

Pier 6 supercolumn fiberglass shroud lip has a loose bolt just above waterline.



MI-14

8132 Concrete Pier Cap-

Photo Type: G - General

Orientation: NW

Date: 8/14/2002

Repairs:

Stair platform support frame at Pier 5 looking onshore.



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SI-49

8204 Steel Thru Truss (FC)

Photo Type: R - Repair

Orientation: Shore

Date: 9/20/2017

Repairs: 10

WSF structure on right. Right truss member L0-L2 bottom chord with rust blooms.



SI-36

8204 Steel Thru Truss (FC)

Photo Type: G - General

Orientation: Sea

Date: 9/12/2011

Repairs:

Span 4 of the overhead walkway has bottom chord scrapes on both trusses, left truss shown.



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SI-54

8204 Steel Thru Truss (FC)

Photo Type: R - Repair

Orientation: DN

Date: 9/10/2019

Repairs: 10

Span 5 truss left bottom chord at Pier 6 has surface and laminar rust on the top side.



SI-39

8204 Steel Thru Truss (FC)

Photo Type: G - General

Orientation: Right

Date: 9/12/2011

Repairs:

Transfer Span 5 has mirrors welded to both right and left trusses bottom chord member L8-L10. Right truss shown.



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SI-46

8222 Deck Corrugated orthotropic/Other
Steel system

Photo Type: G - General

Orientation: Right

Date: 9/20/2017

Repairs:

Soffit near FB4 in Span 3 has paint
failure and rust blooms.



SI-31

8312 Span Apron-

Photo Type: R - Repair

Orientation: Shore

Date: 9/20/2017

Repairs:

2 "X1/8" deep gouge in seaside pin plate
at the top of the slip 1 raising/lowering
ram. Looking shoreward.



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SI-44

8312 Span Apron-

Photo Type: R - Repair

Orientation: Shore

Date: 9/16/2015

Repairs: 7

Slip 2 gangplank, right/shore side, support beam end cover plate is rusting through.



SI-45

8312 Span Apron-

Photo Type: R - Repair

Orientation: Shore

Date: 9/16/2015

Repairs: 7

Slip 1 gangplank, left/shore side, support beam end cover plate is rusting through.



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UW-7

8361 Scour

Photo Type: I - In Depth

Orientation: Right

Date: 10/9/2017

Repairs:

Pier 6 supercolumn has erodible clay on the right side to offshore. Note the overpour on the left half of photo which is 4-ft. off the ground.



SI-40

8390 Fixed Bearing

Photo Type: R - Repair

Orientation: Right

Date: 9/12/2011

Repairs: 6

Span 3 hinge connection at Pier 3 has a loose nut. Inspector hand loosened and hand tightened. Genie lifted needed to access.



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SI-42

8390 Fixed Bearing

Photo Type: G - General

Orientation: Left

Date: 9/12/2011

Repairs:

Span 4 bearing at Pier 5 has 1/8" thick laminar rust.



MI-17

8391 Moveable Bearing (roller, sliding, etc.)

Photo Type: G - General

Orientation: Right

Date: 8/14/2002

Repairs:

Elastomeric bearing Span 3 at Pier 4.



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SI-50

8408 Steel Sliding Plate Joint

Photo Type: G - General

Orientation: Shore

Date: 9/20/2017

Repairs:

Truss end bottom chord sliding plate welds are undercut, rough, and rusty. Left truss chord shown, right side similar.



SI-52

8640 Moveable Pedestrian Gangplank

Photo Type: G - General

Orientation: Shore

Date: 9/20/2017

Repairs:

Structural underside members have rust blooms with up to 10% section loss. Right gangplank shoreside member (worst case) shown.



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SI-51

8640 Moveable Pedestrian Gangplank

Photo Type: R - Repair

Orientation: Shore

Date: 9/20/2017

Repairs: 8

Right most shoreside fall protection grate panel in inspection cab under right gangplank is missing a bolt.



SI-53

8640 Moveable Pedestrian Gangplank

Photo Type: R - Repair

Orientation: Shore

Date: 9/10/2019

Repairs: 9

Slip 2 gangplank apron has a deformed support beam from contact with the ship.



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MI-29

8653 Passenger Cab Floor System and
Lift Beam(FC)

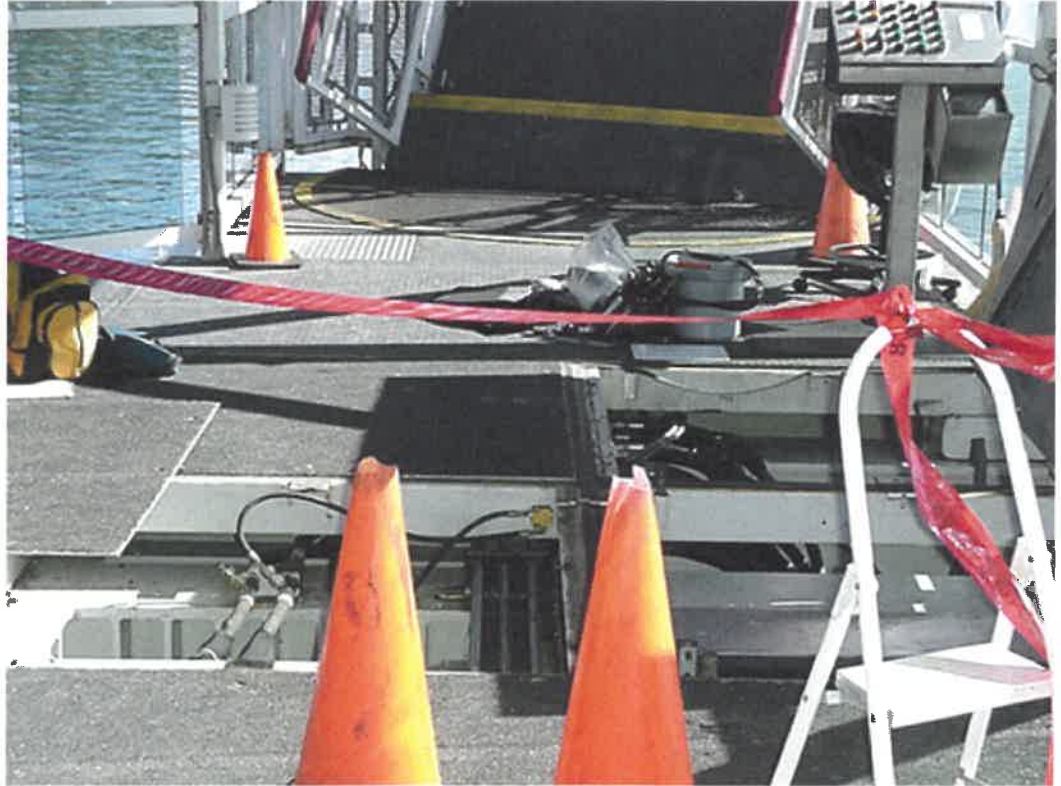
Photo Type: G - General

Orientation: E

Date: 8/19/2003

Repairs:

Open hatches and partial view of cross
beam looking offshore left.



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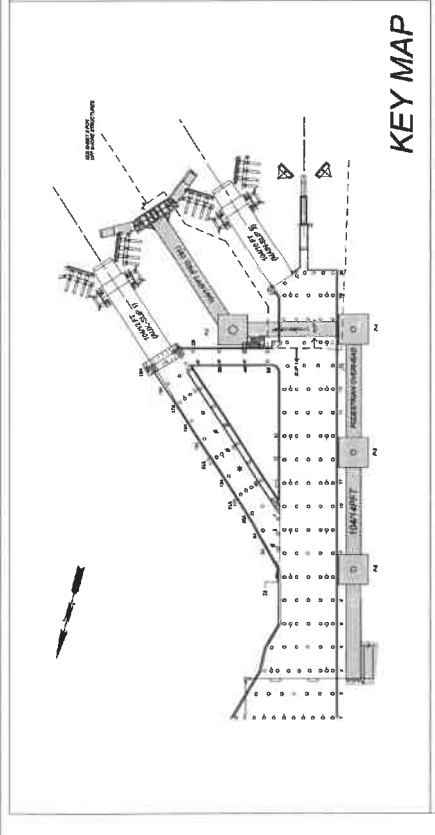
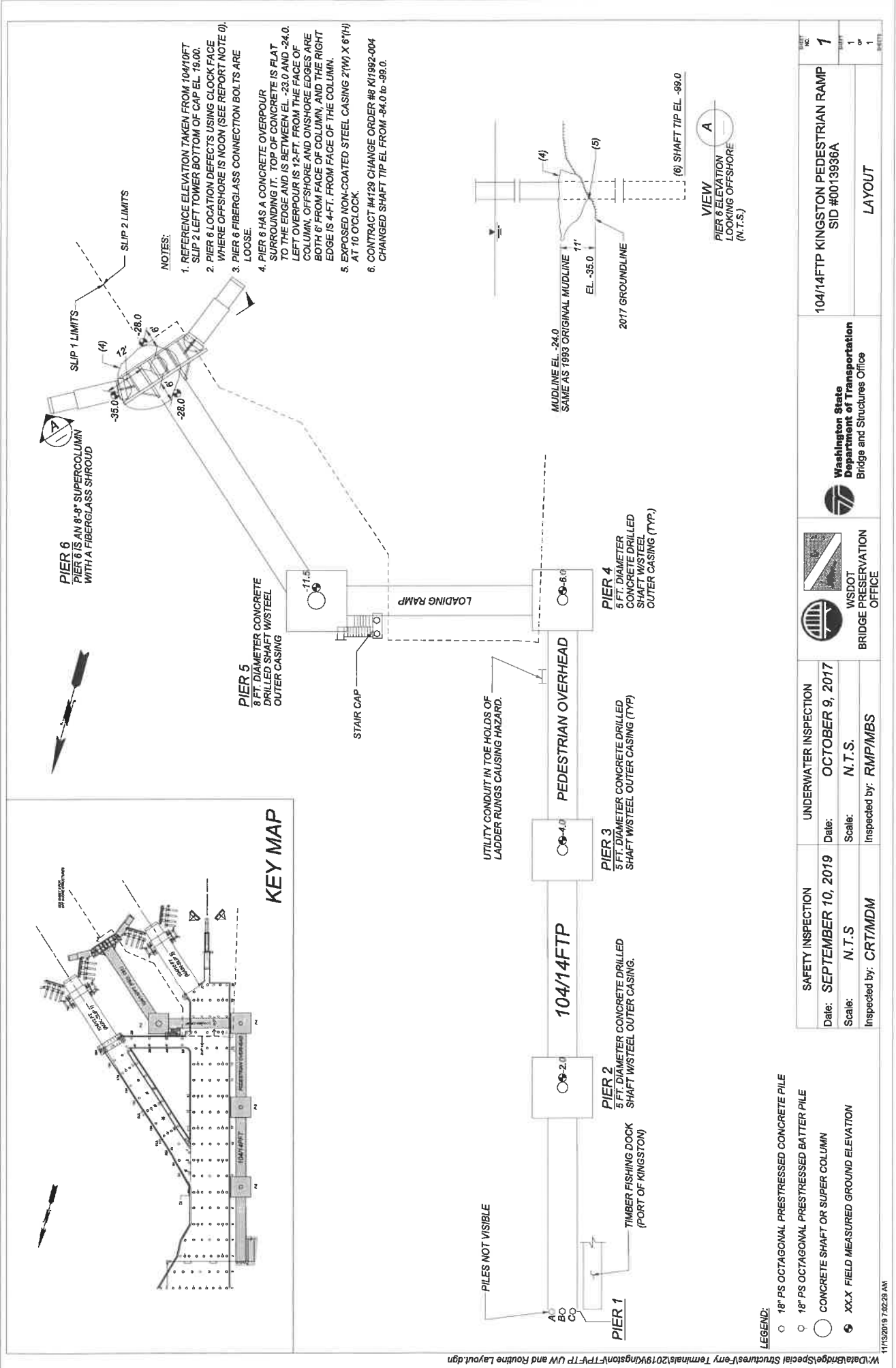
CD Guid: 28f540ff-52d3-4fa7-bbf1-91fe5c6afcc3

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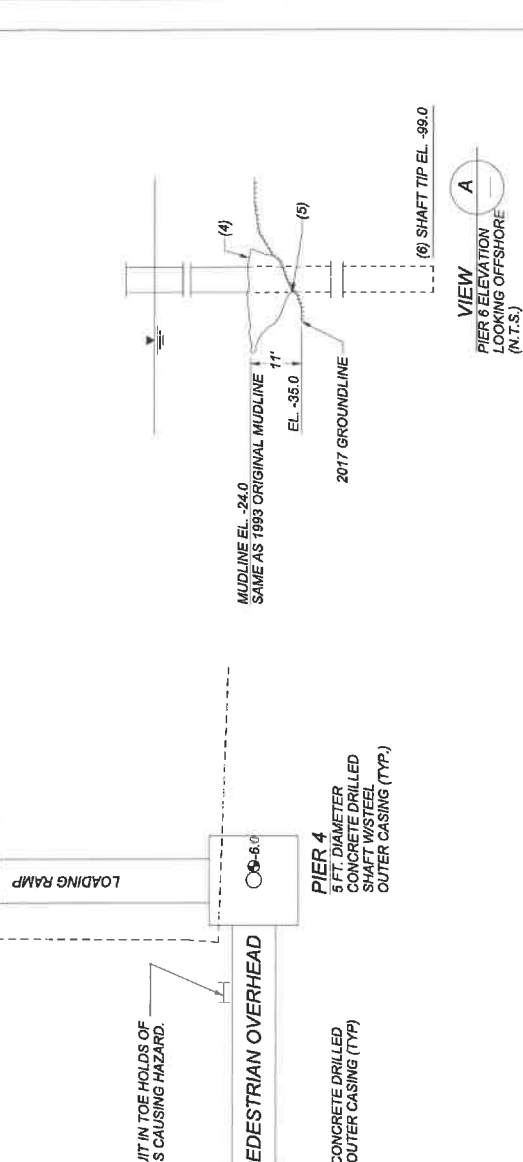
Program Mgr: Evan M Grimm

Br. No. 104/14FTP **SID** 0013936A **Br. Name** KINGSTON PEDESTRIAN RAMP**Carrying** PEDESTRIAN TRAFFIC**Route On****Mile Post****Intersecting** FERRY TRAFFIC**Route Under** 00104**Mile Post** 24.44

Entry Name	Folder Name	Type	Repairs	Page
SI-43	0 Orientation	D		1
SI-32	0 Orientation	E		1
SI-33	0 Orientation	E		2
SI-34	0 Orientation	E		2
UW-0	0 Orientation	W		3
SI-48	8125 Concrete Submerged Pile-	G		3
SI-41	8125 Concrete Submerged Pile-	G		4
UW-1	8125 Concrete Submerged Pile-	G		4
UW-2	8125 Concrete Submerged Pile-	I		5
UW-3	8129 Transfer Span/OHL Supercolumn	G		5
UW-4	8129 Transfer Span/OHL Supercolumn	I		6
UW-5	8129 Transfer Span/OHL Supercolumn	I		6
UW-6	8129 Transfer Span/OHL Supercolumn	I		7
MI-14	8132 Concrete Pier Cap-	G		7
SI-49	8204 Steel Thru Truss (FC)	R	10	8
SI-36	8204 Steel Thru Truss (FC)	G		8
SI-54	8204 Steel Thru Truss (FC)	R	10	9
SI-39	8204 Steel Thru Truss (FC)	G		9
SI-46	8222 Deck Corrugated orthotropic/Other Steel system	G		10
SI-31	8312 Span Apron-	R		10
SI-44	8312 Span Apron-	R	7	11
SI-45	8312 Span Apron-	R	7	11
UW-7	8361 Scour	I		12
SI-40	8390 Fixed Bearing	R	6	12
SI-42	8390 Fixed Bearing	G		13
MI-17	8391 Moveable Bearing (roller, sliding, etc.)	G		13
SI-50	8408 Steel Sliding Plate Joint	G		14
SI-52	8640 Moveable Pedestrian Gangplank	G		14
SI-51	8640 Moveable Pedestrian Gangplank	R	8	15
SI-53	8640 Moveable Pedestrian Gangplank	R	9	15
MI-29	8653 Passenger Cab Floor System and Lift Beam(FC)	G		16



- NOTES:**
1. REFERENCE ELEVATION TAKEN FROM 104/10FT SLIP 2 LEFT TOWER BOTTOM OF CAP EL. 19.00.
 2. PIER 6 LOCATION DEFECTS USING CLOCK FACE WHERE OFFSHORE IS NOON (SEE REPORT NOTE 0).
 3. PIER 6 FIBERGLASS CONNECTION BOLTS ARE LOOSE.
 4. PIER 6 HAS A CONCRETE OVERPOUR SURROUNDING IT. TOP OF CONCRETE IS FLAT TO THE EDGE AND IS BETWEEN EL. -23.0 AND -24.0. LEFT OVERPOUR IS 12-FT. FROM THE FACE OF COLUMN. OFFSHORE AND ONSHORE EDGES ARE BOTH 6\"/>



<p>LEGEND:</p> <ul style="list-style-type: none"> ○ 18" PS OCTAGONAL PRESTRESSED CONCRETE PILE ○ 18" PS OCTAGONAL PRESTRESSED BATTER PILE ○ CONCRETE SHAFT OR SUPER COLUMN ● XX.X FIELD MEASURED GROUND ELEVATION 		<p>SAFETY INSPECTION</p> <p>Date: SEPTEMBER 10, 2019</p> <p>Scale: N.T.S.</p> <p>Inspected by: CRT/MDM</p>		<p>UNDERWATER INSPECTION</p> <p>Date: OCTOBER 9, 2017</p> <p>Scale: N.T.S.</p> <p>Inspected by: RMP/MBS</p>		<p>Washington State Department of Transportation</p> <p>Bridge and Structures Office</p>		<p>104/14FTP KINGSTON PEDESTRIAN RAMP</p> <p>SID #0013936A</p>		<p>LAYOUT</p>		<p>1</p>	<p>1</p>	<p>1</p>
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